

On some important regulations ...

S/O11/60/000/008/001/003
A054/A133

deposits. Folded arcs can be distinguished from each other partly by the tendency of the folded and ruptured structure to incline and dip away from the inner part of the arc. However, it is not always possible to establish the direction of dip precisely. Another way of distinguishing the arcs is considering the intersections of structural-tectonic lines where the arcs are in contact (for instance, the contact between the South-Ural and Central-Ural arcs in the area between Kyshtym and the Sysertsk massive). From an analysis of the orientation of folded arcs (and of course, the arcs of deep cleavages) it was established that they are either oriented with their peak to the side of ancient, archaic, low-Proterozoic continental and main ocean platforms, or they are very distinctly oriented tangentially to these platforms, forming loops (for instance, the Central and Southern Antilles, the Banda Sea, Western Siberia and the European Alps). As every mobile belt is situated between two ancient platforms of continental or oceanic origin, it appears in the form of folded arcs with their peak usually oriented in opposite directions. Based on this structural peculiarity of mobile belts it is possible to distinguish between the central massive enclosed between arcs situated closely together and oriented with their peak to the opposite ancient platform, between massives situated intermittently between arcs of the same orientation but of a different era and between the blocks of the platform, which

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On some important regulations ...

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these zones, which are intersected by plutonic fractures during their reconstruction, have a different development and a different structure and it is very important to distinguish these characteristics for surveying metal deposits. The theory of the new method is not yet completed. It requires further investigations of the rules and laws governing the development and movement of plutonic fractures. Even when highly perfected, however, it will have to be applied in conjunction with the methods so far used successfully in the Soviet Union and will not replace them. There are 7 figures and 34 references, 15 Soviet-bloc and 19 non-Soviet-bloc. The four most recent references to English-language publications read as follows: Amand, P.St. Geological and geophysical synthesis of the tectonics of portions of British Columbia, the Yukon territory and Alaska. Bull. Geol.Soc. America, vol 68, no10, 1957. Moody, J.D., Hill, M.J. Wrench-fault tectonics. Bull. Geol. Soc. America, vol 67, no.9, 1956. Sitter, L.U. de. Structural geology. London - New York - Toronto, 1956. Wilson, J.T., The development and structure of the crust. The Earth as a Planet. Chicago, 1954. ✓

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (The Moscow State University)

SUBMITTED: July 3, 1959

Card 5/5

AZHIGIREY, G.D.

Two types of geosynclinal folding. Vest. Mosk. un. Ser. 4:Geol.
15 no.6:13-26 N-D '60. (MIRA 14:1)

1. Kafedra istoricheskoy i regional'noy geologii Moskovskogo
universiteta.
(Caucasus--Folds (Geology))

KREYTER, Vladimir Mikhaylovich; AZHGIREY, G.D., red.; ENTIN, M.L., red.
izd-va; GUROVA, O.A., tekhn. red.

[Prospecting for mineral deposits] Poiski i razvedka mestorozhdenii
poleznykh iskopaemykh. Izd.2., polnost'iu perer. Moskva, Gos.
nauchno-tekhn. izd-vo lit-ry po geol. i okhrane neдр. Pt.2. 1961.
389 p. (MIRA 14:8)
(Prospecting) (Geology, Economic)

AZHIGREY, G.D.

Deep faults. Zhizn' Zem. no.1 52-64 '61.
(Faults (Geology))

(MIRA 15:6)

AZHIGIREY, G.D.

Overthrust foldings of the western Carpathians. Biul.MOIP.Otd.
geol. 36 no.6:93-94 N-D '61. (MIRA 15:7)
(Carpathian Mountains---Folds (Geology))

AZHIGIRY, G.D., prof., otv. red.; DRUSHCHITS, V.V., dots., red.;
ZARIDZE, G.M., prof., red.; SLAVIN, V.I., prof., red.; KHAIN,
V.Ye., prof., red.

[Geology of the central and western Caucasus; transactions]
Geologiya Tsentral'nogo i Zapadnogo Kavkaza; trudy. Moskva,
Gostoptekhnizdat. Vol.3. 1962. 396 p. (MIRA 15:7)

1. Kavkazskaya ekspeditsiya VAGT i MGU, 1959-1960.
(Caucasus--Geology)

AZHGIREN, G.D.

Some problems of the metallogeny of the Greater Caucasus. Sov.
geol. 5 no.9:24-44 S '62. (MIRA 15:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Caucasus—Ore deposits)

KREYTER, V.M.; KREYTER, D.S.; ARISTOV, V.V.; AZHGIREY, G.D.; REZVOY, D.P.;
KOZYRENKO, V.N.; LAZ'KO, Ye.M.; RUSETSKAYA, G.G.; GALKIN, B.I.;
YERMAKOV, N.P.; NEVSKIY, V.A.; VOZDVIZHENSKIY, B.I.; KULICHIKHIN,
N.I.; POPOV, I.N.

Nikolai Vasil'evich Baryshev, 1903-. Izv.vys.ucheb.zav.; geol. i
razv. 6 no.5:95-96 My '63. (MIRA 18:4)

AZHGIREY, G.D.

Main stages in the tectonic and igneous history of the Greater
Caucasus. Vest. Mosk. un. Ser. 4: Geol. 18 no.4:3-14 J1-Ag '63.
(MIRA 16:10)

1. Kafedra istoricheskoy i regional'noy geologii Moskovskogo
universiteta.

AZHGIREY, L. A., KUMEKIN, Yu. P., MESHCHERYAKOV, M. G., NURUSHEV, S. B., and STOLETOV, S.B. (4)

"Determination of the N Scattering Amplitudes Averaged Over Isotopic States at 660 Mev"

report presented at Intl. Conference on High Energy Physics, Geneva,
4-11 July 1962

Joint Institute for Nuclear Research
Lab. of Nuclear Problems

AZHGIREV, L. S.

19 27 27
DIRECTION OF DEUTERONS FROM Li, Be, C, AND O BY

675 MEV PROTONS L. Azhgirev, I. Ygorov, et al. *Soviet*

Institute of Nuclear Research, Laboratory of Nuclear

Physics, 1957. (in Russian)

Investigations with a magnet at 7.6° angle in relation to the proton beam revealed deuteron group emissions with energies near 600 Mev. The elastic (p-d) scattering is the source of fast deuterons for deuterium; for other cases the deuteron emission proceeds with the reaction $p + (Z, A) \rightarrow d + p + (Z-1, A-2)$ which represents the proton scattering into quasi-deuteron groups inside the nucleus. With an order of accuracy $\sim 20\%$ the differential cross section of the reaction is 2.9×10^{-27} , 1.2×10^{-27} , 3.7×10^{-27} , and 4.6×10^{-27} cm²/sterad for Li, Be, C, and O, respectively. The mean energies for the (p,d)-deuteron motions in these nuclei were estimated to be approximately 8, 11, 14, and 14 Mev. No evidence of strong-pulse spectra was observed in the knock-on nuclei of tritium. Experiments indicated the importance of the triple interaction followed by strong pulse transmissions to deuterons during the passage of nucleons through the light nuclei. The results are in good agreement with the concepts of the nuclear strong-pulse model. (To be translated. The translation will be announced in NSA, when available.) (R-r-surb)

1 RML
1-2 RM

1-453d

MT RML

Azhgirey, L.S.

AUTHOR: Azhgirey, L.S., Vzorov, I.K., Zrellov, V.P., 56-5-19/46
Meshcheryakov, M.G., Neganov, B.S., Shabudin, A.F.

TITLE: The Knocking Out of Deuteron from the Nuclei Li, Be, C and O by
 675 MeV Protons (Vybivaniye deytronov iz yader Li, Be, C i O
 protonami s energiyey 675 MeV)

PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol. 33, Nr 5,
 pp. 1185-1195 (USSR)

ABSTRACT: With the help of the magnetical analysis below 7.6° , with respect
 to the primary proton ray, the momentum spectrum of the charged
 particle was recorded which is produced when deuterium, lithium,
 beryllium, carbon and oxygen are bombarded by 675 MeV protons. The
 occurrence of deuteron groups with an energy of ~ 600 MeV was ob-
 served for all five elements. In the case of deuterium the fast
 deuterons result from the elastic scattering of the protons by
 deuterons. In all other cases the production mechanism of the reac-
 tion must be ascribed to $p + (Z, A) \rightarrow d + p + (Z - 1, A - 2)$.
 These reactions, therefore, correspond to the scattering of the
 protons by the quasi-deuteron groups within the target nucleus.
 The following differential cross sections were measured:

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AZHIGIREY, L. S.

Authors: Azhigirey, L. S., Vzorov, I. M., Kravtsov, V. I.,
Sobolevskiy, V. G., Petukhin, I. V.

Title: Some Properties of the Process of Production of Charged
Pions on Carbon by Protons With the Energy 670 MeV (O neko-
torykh svoystvakh protsessu obrazovaniya zaryadovayshkh
pi-mezonov na uglernom protone s energiyey 670 MeV)

Periodic: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1966,
vol. 1, No. 6, pp 1557-1566 (USSR)

Abstract: The experiments carried out in this paper were carried out
with the six-meter synchrocyclotron of the U.S.S.R. Academy In-
stitut yadernykh issledovaniy (United Institute of Nuclear
Research) in order to investigate the production of charged
pions on carbon by protons with ~670 MeV. The energy spectra
of the positive and negative pions were measured with a
magnetic spectrometer which is described in a detailed manner.
Then the procedure of the measurements is discussed. A table
gives the values of $d^2\sigma^+/d\omega dE$ and $d^2\sigma^-/d\omega dE$ in the labora-
tory system. The spectra of the positive and negative pions

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NOV/56-5A-6-1/51

On Some Properties of the Process of Production of Charged Pions on Carbon by Protons with the Energy 670 MeV

have a maximum near ~ 110 MeV. The medium energy of the positive and negative pions, respectively, is ~ 136 and ~ 126 MeV. Then the corresponding values are given for the center of gravity system. The interaction of a pion with a nucleon in the state $T = J = 3/2$ plays an essential rôle in the production of the majority of the positive pions in the nucleon-nucleon interactions. The observed spectrum of the positive and negative mesons have a long "tail" which is directed towards the high energy side. The spectra of the positive and negative mesons were obtained until energies of nearly 200 MeV. In the center of gravity system, the differential cross sections of the productions of positive and negative mesons depend a little on the angle between the produced pions and the proton beam. If this angle decreases from $\sim 0^\circ$ to $\sim 60^\circ$ the ratio of the differential cross sections of the production of positive mesons in proton collisions within the carbon nucleus and on free protons decrease from ~ 0.8 to ~ 0.5 . The differential cross sections of the production of positive and negative mesons amount to $(1.1 \pm 0.9) \cdot 10^{-27}$ and $(1.0 \pm 0.1) \cdot 10^{-27}$ sterad. According to the measured ratio of the π^+ and π^- yields in the inelastic collisions in the state with $T = 0$ play an

Card 5

On Some Properties of the Process of Production of Charged Ions on Carbon
by Protons with the Energy 0.70 MeV

407/56-34-6-1/51

important rôle. The authors thank A. D. Kuznetsov for his participation in the construction of the electronic apparatus. There are 3 figures, 5 tables, and 14 references, 7 of which are Soviet.

ASSOCIATION: Ob"yedinennyy institut yadernyykh issledovaniy
(United Institute of Nuclear Research)

SUBMITTED: January 6, 1958

Card 5/5

21(7)

AUTHORS:

Azhgirey, L. S., Vzorov, I. K., Zrelov, V. P., Meshoheryakov, M. G., Neganov, B. S., Ryndin, R. M., Shahudin, A. F. SOV/56-36-6-4/66

TITLE:

Interaction Between Protons and Atomic Nuclei at Energies of 660 Mev and the Intra-nuclear Distribution of the Nucleon Momenta (Vzaimodeystviye protonov s atomnymi yadrami pri energii 660 MeV i vnutryadernoye raspredeleniye impul'sov nuklonov)

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 6, pp 1631 - 1649 (USSR)

ABSTRACT:

Apart from theoretical discussions, this very detailed paper above all deals with the momentum distribution in quasi-elastic proton-nucleon collisions, and gives a detailed description of the experiments carried out as well as a great number of experimental data concerning the angular distributions and energy spectra of secondary particles (mainly protons with energies of ≥ 60 Mev) emitted at angles of 7, 12.2, 18, 24 and 30° in reactions between 660 Mev protons and nuclei of Be, C, Cu and U. Table 3 gives for all 4 elements the $d\sigma/d\omega$ measured for 8 different emission angles ϕ between 7 and 40°.

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Interaction Between Protons and Atomic Nuclei at SOV/56-36-6-4/66
Energies of 660 Mev and the Intra-nuclear Distribution of the Nucleon
Momenta

Thus, the following was found for

$\phi = 7^\circ$: $d\sigma/d\Omega = (1.100 \pm 0.055) \cdot 10^{-24} \text{ cm}^2/\text{steradian}$, for
 40° $(0.074 \pm 0.004) \cdot 10^{-24} \text{ cm}^2/\text{steradian}$. Figure 2 shows these
results in form of a diagram. It is found that in the general
sense, the dependence of $d\sigma/d\Omega$ on A decreases with a decrease
of ϕ . The 4 diagrams in figure 3 show the energy spectra of the
charged secondary particles at 7° , the following figures each
show (in 4 diagrams) the energy spectra for the other angles.
At 7° the characteristic peak ($d^2\sigma/d\Omega dE$ in $10^{-27} \text{ cm}^2/\text{steradian.Mev}$
is the ordinate) is narrow and is practically near 660 Mev; a
second maximum is only vaguely discernible and a weak minimum
can be observed only in the case of Cu at about 500 Mev. At
 12.2° the peak is already broader and shifted somewhat towards
lower energies; the minima are more marked and are at energy
values of somewhat below 500 Mev. At 18° these peaks are still
broader and are found already at energies of < 600 Mev; the
minima are especially low in the case of Cu and U at about
400 Mev. At 24° the broad maxima (especially in the case of U)

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Interaction Between Protons and Atomic Nuclei at 30V/56-36-6-4/66
Energies of 660 Mev and the Intra-nuclear Distribution of the Nucleon
Momenta

are at about 500 Mev, the minima are distinctly observable at about 400 Mev; in the case of U the ordinate values are about $E < 200$ Mev above the maximum at ~ 500 Mev. At 30° this development is more marked; the maxima are flat and are at about 400 Mev; Cu and U have very high ordinate values at low energies, which decrease to a minimum at about 300 Mev, after which they again increase somewhat and again decrease sharply towards zero with increasing energies. In general, the cross sections for the emission of such secondary particles increase with a decrease of the angle. Passing from high to low energies, the spectral regions of the investigated elements correspond to diffractive scattering of protons on nuclei (small angle region), single quasi-elastic proton-nucleon collisions, pion production on bound nucleons and intranuclear cascade processes, respectively. In chapter 5 of this paper the authors compare the experimental energy spectra for quasi-elastic proton-nucleon scattering with the calculated spectra (in momentum approximation under various assumptions with respect to the momentum distributions of the nucleons in the nucleus) (Figs

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Interaction Between Protons and Atomic Nuclei at SOV/56-36-6-4/66
Energies of 660 Mev and the Intra-nuclear Distribution of the Nucleon
Momenta

8 and 9). In the case of p-Be- and p-C-scattering agreement is found (between experiment and theory) when using a Gaussian momentum distribution having a $1/\sigma$ -value at about 20 Mev, which is in keeping with the results obtained in Berkeley. The authors finally thank R. N. Fedorova and I. V. Popova for programming and carrying out calculations, and further also S. M. Bilen'kiy, N. P. Klepikov, L. M. Soroko and N. A. Chernikov for valuable discussions. There are 9 figures, 3 tables, and 25 references, 6 of which are Soviet.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: December 20, 1958

Card 4/4

S/056/62/043/006/039/067
B125/B102.

AUTHORS: Azhgirey, L. S., Kumekin, Yu. P., Meshcheryakov, M. G.,
Nurushev, S. B., Stoletov, G. D.

TITLE: The nucleon-nucleon scattering amplitudes and the complexity
of the spin-orbit potential of interaction between nucleons
and nuclei

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,
no. 6(12), 1962, 2194 -2198

TEXT: Information as to the nucleon-nucleon scattering at high energies
can be obtained from experimental data on the scattering of nucleons by
nuclei. The differential elastic cross sections of protons scattered by
carbon nuclei through small angles and the polarization of these protons
were determined by L. S. Azhgirey et al. (ZhETF, 44, 1, 1963) at
 $E_p = 660$ Mev. The real and imaginary parts of the Born amplitudes were
obtained from these cross sections $G(0)$ and $H(0)$, and the relations

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The nucleon-nucleon...

S/056/62/043/006/039/067
B125/B102

$$\begin{aligned} G(\gamma) &= N(k/k_0) \left[\frac{3}{4} A_1(q) + \frac{1}{4} A_0(q) \right], \\ H(q) &= -iN(k/k_0)^2 \left[\frac{3}{4} C_1(q) + \frac{1}{4} C_0(q) \right], \end{aligned} \quad (3)$$

between the amplitudes of nucleon-nucleus scattering and the NN-scattering amplitudes following from the superposition model lead to

$$\begin{aligned} \bar{A}^R(0) &= \frac{3}{4} A_1^R(0) + \frac{1}{4} A_0^R(0) = -0.36 \pm 0.03, \\ \bar{A}^I(0) &= \frac{3}{4} A_1^I(0) + \frac{1}{4} A_0^I(0) = 0.72 \pm 0.04, \\ \bar{C}^R(0) &= \frac{3}{4} C_1^R(0) + \frac{1}{4} C_0^R(0) = -0.33 \pm 0.28, \\ \bar{C}^I(0) &= \frac{3}{4} C_1^I(0) + \frac{1}{4} C_0^I(0) = 0.77 \pm 0.20. \end{aligned} \quad (4)$$

for the real and imaginary parts of the amplitudes A and C , averaged over the isotopic states. q is the momentum transferred. The subscripts 1 and zero refer respectively to the isotopic states with $T = 1$ and $T = 0$ of the two-nucleon system considered. The negative sign of the real part $\bar{A}^R(0)$

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The nucleon-nucleon...

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the angle 0° . It also implies the existence of a pure shadow scattering at ~ 400 Mev in the lab system. $U^1(0)$ is positive throughout the energy range investigated. Hence up to 660 Mev the real part of the spin-orbit potential V_{SR} of nucleon-nucleus interaction has the same sign as in the shell model. The parameters of the optical potentials, determined from the nucleon-nucleon scattering, are tabulated. The data obtained on nucleon-nucleon scattering indicate that the real part of V_{SR} diminishes with increasing energy. According to nucleon-nucleon experiments the imaginary part of V_{SR} is likely to be non-zero. There are 1 figure and 1 table.

ASSOCIATION: Ob'yedinenny institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: June 30, 1962

Table

E, MeV	V_{CR} , MeV	V_{CI} , MeV	V_{SR} , MeV	V_{SI} , MeV
40	82 ± 6	99 ± 3	8.6 ± 2.0	-1.14 ± 0.36
90	65 ± 0	57 ± 0	5.0 ± 0.0	-0.85 ± 0.56
147	52 ± 4	46 ± 3	3.8 ± 0.4	-0.65 ± 0.09
210	33 ± 4	46 ± 3	3.1 ± 0.2	-0.58 ± 0.07
310	17 ± 7	43 ± 3	2.2 ± 0.2	-0.56 ± 0.19
660	-33 ± 3	67 ± 4	1.3 ± 0.3	0.55 ± 0.48

Card 4/4

Excitation of C^{12} nuclei...

S/020/62/145/006/006/015
B181/B102

the bound nucleons may cause stable collective excitations of the nucleus, i.e. spin, isospin, and spin-isospin waves (ZhETF, 43, no. 8, 1962). Giant photoresonance excitation and excitation of the nucleus by spin waves of the giant resonance energy may set in simultaneously. This is probably what causes the widening of the curve. There are 3 figures.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: May 11, 1962

Card 2/2

AZHGIREY, L.S.; KLEPIKOV, N.P.; KUMEKIN, Yu.P.; MESHCHERYAKOV, M.G.;
NURYSHEV, S.B.; STOLETOV, G.D.; SARANTSEVA, V.R., tekhn.red.

[Phenomenological analysis of pp-interaction at 657 Mev]
Fenomenologicheskii analiz pp-vzaimodeistviia pri 657 mev.
Dubna, Ob"edinennyi in-t iadernykh issledovani. Pt.1. 1963. 3 p.
(MIRA 16:6)

(Protons—Scattering)

24.6600

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S/056/63/044/001/034/057
B188/B180

AUTHORS:

Azhgirey, L. S., Kumekin, Yu. P., Meshcheryakov, M. G.,
Nurushev, S. B., Stoletov, G. D., Khuan De-tsyau

TITLE:

Elastic small angle scattering of 660-Mev-protons by carbon nuclei

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
no. 1, 1963, 177-191

TEXT: The differential elastic scattering cross section of 660-Mev protons by carbon nuclei was measured in the range ($1.8^\circ \pm 0 \pm 90^\circ$) where nuclear and Coulomb scattering interfere. The polarization of the scattered protons was also measured, and the results were used to calculate the scattering amplitudes and the corresponding nuclear potentials of the optical model. Determination of the energy spectra of the scattered protons shows that inelastic competes with elastic scattering at small angles also. Reliable results on elastic scattering cross sections at high proton energies can only be obtained if inelastically scattered protons are carefully separated. Here this is done by deflection in a magnetic field. Fig. 4 gives the differential cross section

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Elastic small angle scattering ...

S/056/63/044/001/034/0647
B188/B180

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

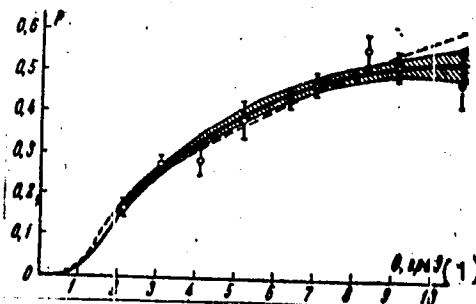
SUBMITTED: June 30, 1962

Fig. 4: Differential scattering cross section for 660 Mev protons by carbon. θ - secondary protons with more than 60 Mev; θ elastically scattered protons. Solid curve: calculated values. Legend: (1) $d\sigma/d\omega$, $10^{-24} \text{ cm}^2/\text{sterad}$, (2) θ , degrees.

Fig. 5: Polarization of protons (primary energy 660 Mev) after elastic scattering by carbon nuclei. The P value at 6.3° was taken from ZhETF, 35, 89, 1958; bold, solid curve: calculated values with optimum adaptation; hatched area: range of error. Legend: (1) θ , degrees.

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Fig. 5



S/056/63/044/002/024/065
B102/B186

AUTHORS: Azhgirey, L. S., Nurushev, S. B.

TITLE: Determination of the parameters of the generalized diffraction model of the nucleus at 660 Mev

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 2, 1963, 536-540

TEXT: The generalized diffraction theory of high-energy particle scattering from atomic nuclei developed by K. R. Greider and A. L. Glassgold (Ann. Phys. 10, 100, 1960) is considered. A relation is derived which connects the nuclear scattering amplitudes $\eta_1 = \exp(2i\delta_1)$ (where δ_1 is the phase shifts) with the parameters of the theory, i.e. the nuclear opacity β_0 at small l , the number L of the strongly absorbed partial waves, and 2Δ , the region in which $\beta(l)$ varies rapidly. The phase $\eta(l)$ is assumed to be constant for $\eta(l) < 1$ (inside the nucleus) and $\eta(l) = 0$ for $\eta(l) = 1$ (outside the nucleus). These parameters can be determined from the differential cross-section and polarization (cf. ZhETF, Card 1/4

Determination of the parameters ...

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B102/B186

44, 177, 1963), or, as it is done here, from the relation between nuclear scattering amplitude and phase. When spin-orbital interaction is taken into account,

$$\operatorname{Re} \eta_l^+ = 1 - k \left\{ \frac{1}{\alpha_1} g_{nl}(0) F_l(\alpha_1) - \frac{l}{\alpha_2^2} h_{nr}(0) F_l(\alpha_2) \right\},$$

$$\operatorname{Im} \eta_l^+ = k \left\{ \frac{1}{\alpha_1} g_{nr}(0) F_l(\alpha_1) + \frac{l}{\alpha_2^2} h_{nl}(0) F_l(\alpha_2) \right\},$$

$$\operatorname{Re} \eta_l^- = 1 - k \left\{ \frac{1}{\alpha_1} g_{nl}(0) F_l(\alpha_1) + \frac{l+1}{\alpha_2^2} h_{nr}(0) F_l(\alpha_2) \right\},$$

$$\operatorname{Im} \eta_l^- = k \left\{ \frac{1}{\alpha_1} g_{nr}(0) F_l(\alpha_1) - \frac{l+1}{\alpha_2^2} h_{nl}(0) F_l(\alpha_2) \right\},$$

(4)

is obtained; without spin-orbital interaction

$$\operatorname{Re} \eta_l = 1 - \frac{k}{\alpha} g_{nl}(0) F_l(\alpha), \quad \operatorname{Im} \eta_l = \frac{k}{\alpha} g_{nr}(0) F_l(\alpha).$$

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Determination of the parameters ...

S/056/63/044/002/024/065
B102/B106

will hold. The scattering amplitudes for small θ are given by

$$g'(x) = g(0) e^{\alpha_1(x-1)}, \quad h(x) = h'(x) \sqrt{1-x^2} = h'(0) \sqrt{1-x^2} e^{\alpha_2(x-1)}. \quad (3)$$

where $g(0)$ and $h'(0)$ are the amplitudes of forward-scattering, $x = \cos \theta$, $\alpha_1 = k^2 a_1^2/2$, $\alpha_2 = k^2 a_2^2/2$, k is the wave number of the incident proton (c.m.s.) and $a_{1,2}$ are the radial formfactors; $I_{1+1/2}(\alpha)$ is a Bessel function of imaginary argument.

$$\beta_{\pm}(l) = 1 - |\eta_{\pm}|^2, \quad \operatorname{tg} \varphi_{\pm}(l) = \operatorname{Im} \eta_{\pm} / \operatorname{Re} \eta_{\pm}$$

is calculated numerically for the amplitudes

$$g_{nR}(0) = (-4.45 \pm 0.39) \cdot 10^{-13} \text{ cm}, \quad g_{nI}(0) = (13.41 \pm 0.40) \cdot 10^{-13} \text{ cm},$$

$$h_{nR}(0) = (-8 \pm 10) \cdot 10^{-13} \text{ cm}, \quad h_{nI}(0) = (29.1 \pm 7.2) \cdot 10^{-13} \text{ cm}$$

and the radial parameters

$$a_1 = (2.02 \pm 0.03) \cdot 10^{-13} \text{ cm}, \quad a_2 = (2.32 \pm 0.13) \cdot 10^{-13} \text{ cm}.$$

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AZHGIREX, L.S.; NURUSHEV, S.B.

Real part of the amplitude of elastic proton-proton forward
scattering. Zhur. eksp. i teor. fiz. 45 no.3:599-603 S '63.
(MIRA 16:10)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Protons--Scattering)

AZHGREY, L.S.; KLEPIKOV, N.P.; KUMEKIN, Yu.P.; MESHCHERYAKOV, M.G.;
NURUSHEV, S.B. ; STOLETOV, G.D.

Phenomenological analysis of pp-interaction at 657 Mev. Part 1.
Zhur. eksp. i teor. fiz. 45 no.4:1174-1182 0 '63. (MIRA 16:11)

ACCESSION NR: AP4025940

S/0056/64/046/003/1074/1078

AUTHOR: Azhgirey, L. S.; Klepikov, N. P.; Kumekin, Yu. P.; Meshcheryakov, M. G.;
Nurushev, S. B.; Stöletov, G. D.

TITLE: Further refinement of pp scattering phase shifts at 657 MeV

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 46, no. 3, 1964,
1074-1078

TOPIC TAGS: pp scattering, scattering phase shift, triple scattering parameter,
mixing parameter, absorption parameter, phase shift real part, unique phase shift
set, statistical reliability

ABSTRACT: In view of additional information recently obtained by various investi-
gators, the results of a phase shift analysis of pp scattering at 657 MeV are re-
fined by taking into account new data on the angular dependence of the triple-
scattering parameter A. These experimental data are found to be represented with
statistical reliability by a set of the real parts of the phase shifts, the mix-
ing parameters, and the averaged absorption parameters. Arguments are presented
which indicate that the obtained phase shift set is unique, particularly in view

Card 1/1
2

ACCESSION NR: AP4025940

of the smooth transition between the solution and the corresponding curves for energies below 345 MeV. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 30Aug63

DATE ACQ: 16Apr64

ENCL: 01

SUB CODE: PH

NR REF SOV: 006

OTHER: 003

Card 2/8

AZHGIREY, L.S.

Phase shifts of pp-scattering at 435 Mev. Zhur. eksp. i teor.
fiz. 45 no.6:1988-1991 D '63. (MIRA 17:2)

1. Ob'yedinennyy institut yadernykh issledovaniy.

L 54620-65 HWT(m)/I/EWA(m)=2

ACCESSION NR: AR5007713

S/0367/65/001/001/0122/0129

AUTHOR: Azhgirey, L.S.; Kumekdn, Yu. P.; Nuruahev, S.B.; Solov'yanov, V. L.;
Stoletov, G.D.

TITLE: Parameters of triple scattering of protons by carbon nuclei at 660 MeV and a comparison of the results of the analysis of NN and pC-scattering

SOURCE: Yadernaya fizika, v. 1, 1965, 122-129

TOPIC TAGS: triple proton carbon scattering, NN high energy scattering, nucleon nucleus scattering, scattering polarization rotation, NN scattering phase analysis, carbon nucleus, proton scattering

ABSTRACT: Numerous investigators have previously studied (see, e.g., A.K. Kerman, H. McManus, E.M. Thaler, Ann. of Phys., 8, 551, 1959) the quantitative connection between the nucleon-nucleus and nucleon-nucleon scattering and have found, within the framework of the superposition model, a satisfactory agreement up to 110 MeV. In a previous paper (ZhEF, 41, 117, 1973), the authors analyzed the results of measurements of the differential cross section and polarization during elastic scattering through small angles of 660 MeV protons on carbon nuclei and concluded that the spin-orbit potential of

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L 54620-65

ACCESSION NR: AR5007713

the nucleon-nucleon interaction is complex. Measurements have now been made of the parameters A and R describing the rotation of the polarization vector during the elastic scattering of 660 MeV protons by carbon nuclei at 90° . All the available data on pC-scattering at 660 MeV have been used to determine the parameters of the optical potential. Their values at 90° are -0.240 ± 0.010 and 0.60 ± 0.10 , respectively. The results of the analysis of the data on pC-scattering at 310 MeV and 660 MeV are compared with the results of the phase shift analysis of NN-scattering at the same energies within the framework of the superposition model (Yu. M. Lazarev, A. S. Kuznetsov, Izv. VNIITF, 16, 797, 1964). Calculations show that none of the phase shift sets for the NN-scattering can be brought into agreement with the scattering on nuclei. In view of the good agreement at 310 MeV, these discrepancies at 660 MeV can hardly be explained by a possible inaccuracy of the theory used during the comparison. The authors thank M. G. Meshcheryakov for his constant interest in the work, Yu. M. Lazarev and R. M. Ryndin for useful discussions, and A. S. Kuznetsov for help during the typing of the manuscript. Original article in Russian, English and German.

ASSOCIATION: Ob"yedinennyi institut yadernykh issledovaniy (Joint Institute for Nuclear Studies)

Card 2/3

L 54620-65

ACCESSION NR: AP5007713

SUBMITTED: 01Jul64

ENCL: 00

SUB CODE: NP

NO REF SOV: 011

OTHER: 009

file
Card 3/3

AZHGIREY, L.S.; KUMEKIN, Yu.P.; MESHCHERYAKOV, M.G.; NURUSHEV, S.B.;
SOLOV'YANOV, V.L.; STOLETOV, G.D.

Measuring the polarization in pp-scattering at 667 Mev.
IAd. fiz. 2 no.5:892-896 N '65.

(MIRA 18:12)

1. Ob"yedinennyy institut yadernykh issledovaniy.

L 26682-66 EWT(m)/T

ACC NR: AP6016898

SOURCE CODE: UR/0367/65/002/005/0892/0896

AUTHOR: Azbgirey, L. S.---Azgirey, L. S.; Kumekin, Yu. P.---Kumekin, Ju. P.; Mescheryakov, M. G.---Mescheryakov, M. G.; Stoletov, G. D.; Nurushev, S. G.; Solov'yanov, V. L.---Solovyanov, V. L. 27
B

ORG: Joint Institute for Nuclear Research (Ob'yedinenny institut yadernykh issledovaniy)

TITLE: Measurement of polarization in pp-scattering with 667 mev

SOURCE: Yadernaya fizika, v. 2, no. 5, 1965, 892-896 ¹⁹

TOPIC TAGS: proton scattering, proton polarization

ABSTRACT: The polarization in pp-scattering in the interval $4.4^\circ \leq \theta \leq 48.2^\circ$ is found from an experiment on double scattering of protons by protons; for large angles, by means of renormalization of the measurements with 635 mev. An increase in polarization in pp-scattering appeared with an increase in energy from 602 to 656 mev. Analysis of the angular dependence of the polarization showed that with 667 mev a significant contribution to the polarization is made by the triplet states with angular momentum up to and including $l = 5$. The set of phase shifts is described by the values of polarization obtained with other experimental data in the vicinity of 660 mev. Orig. art. has: 2 figures and 1 table. [JPRS]

SUB CODE: 20 / SUBM DATE: 02Jul65 / ORIG REF: 004 / OTH REF: 005

SOV REF: 004

Card 1/1 B.L.G.

2

ACC NR: AP7011839

SOURCE CODE: UR/0367/66/004/006/1248/1250

AUTHOR: Azhgirey, L. S.

ORG: Joint Institute for Nuclear Research (Ob'yedinnenny institut yadernykh issledovaniy)

TITLE: Elastic pp-scattering phase shift analysis at 657 MeV, taking into account one-boson exchange and relativistic coulomb effects

SOURCE: Yadernaya fizika, v. 4, no. 6, 1966, 1248-1250

TOPIC TAGS: elastic scattering, phase shift analysis, Coulomb scattering, boson

SUB CODE: 20

ABSTRACT: The phase shift analysis of experimental data on elastic pp-scattering near 660 MeV has been performed, taking relativistic corrections and proton form factors into account in the Coulomb scattering. The exchange of a scalar and two vector boson besides the one-pion exchange was taken into account in calculating the phase shifts of higher states in the pp system. The one-boson exchange proves to be significant for a description of the proton polarization data at small angles.

Card 1/2

0292 0438

AZHIBAYEV, K. A.

Azhibayev, K. A.

"Electrocardiographic investigations of electrical injury," Kirgiz
State Medical Inst. Frunze, 1956. (Dissertation for the degree of
Candidate in Sciences)

Knizhnaya letopis
No. 11, 1956. Moscow

FRENKEL', G.L., prof., red.; AZHIBAYEV, K.A., red.; TURJOMENOV, M.T., red.;
ANOKHINA, M.G., tekhn.red.

[Proceedings of a conference on injuries from electricity] Trudy
konferentsii po elektrotravme. Pod obshchei red. G.L.Frenkelia.
Frunze, Izd-vo Akad.nauk Kirgizskoi SSR, 1957. 244 p. (MIRA 11:5)

1. Konferentsiya po elektrotravme, 1956.
(ELECTRICITY, INJURIES FROM)

AZHIBAYEV, K.A.; ESKIN, V.Yo.; FRENKEL', Georgiy L'vovich, red.

[Physical and physiological causes for increased electrical danger in mountainous and hot countries; with a description of the "DPA-1" defibrillator] Fizicheskie i fiziologicheskie prichiny povysheniya elektroopasnosti v gornykh i zharclikh stranakh; s prilozheniem opisanija defibrillatora "DPA-1." Frunze, Izd-vo Akad.nauk Kirgizskoi SSR, 1960. 69 p.

(MIRA 13:12)

(ELECTROPHYSIOLOGY)
(MEDICAL INSTRUMENTS AND APPARATUS)

AZHIDZHEV, Iordan, inzh.; BALASHEV, Angel, inzh.; ARSOV, Ianko, inzh.

Comparative investigation of durability of certain antifriction
cast iron. Tekhnika Bulg 10 no.8:25-28 '61.

(Castiron)

MAKIROV, K., dot sent; AZHIGALIYEV, N.

"Public health and medicine in prerevolutionary Kazakhstan" by
V.O.Grebenshchikov. Reviewed by K.Makirov, N.Azhigaliev. Sov.
med. 25 no.9:153 S '61. (MIRA 15:1)
(BIBLIOGRAPHY__KAZAKHSTAN__MEDICINE)
(KAZAKHSTAN__MEDICINE__BIBLIOGRAPHY)
(GREBENSHCHIKOV, V.O.)

HCH10/E1, R.S.

The effectiveness of potassium fertilizers for sugar beets. N. P. Fertilizers and P. K. Salinas. Narodnoye Khoz. Karakalpakstan 1980, No. 1, p. 17. In spite of the high content of K in the gray and chestnut soils of Karakalpakstan, K fertilizers, when used in conjunction with N and P fertilizers, increase the yield of sugar beets. When N in the ammonium form is added in spring before planting it decreases the sugar content of the beets. The addition of K increases the sugar content. W. R. Heim.

ADD 11.4 DETAILING LITERATURE CLASSIFICATION

AZHIGOYEV, P.K

An unsuccessful book ("Cultivation practices for sugar beets on the leading farms of Central Asia and Kazakhstan." G.I.Gokhar'-Kharmandar'ian). Reviewed by P. Azhigoev. Sakh.prom.30 no.10-77 (MIRA 10:1)
0 '56. (Soviet Central Asia--Sugar beets) (Kazakhstan--Sugar beets)
(Gokhar'-Kharmandar'ian, G.I.)

AZHIKEYEV, N.Kh.; MURSALIMOV, Kh.I.; ORLOV, A.I.; POYARKOV, V.E.

Immediate problems and possibilities of increasing the economic efficiency of geological works. Sov. geol. 8 no.8:126-138 Ag '65.
(MIRA 18:10)

1. Kazakhskiy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.

AZHIKEYEV, M.Kh.; LI, V.G.; MURSALIMOV, Kh.I.; ORLOV, A.I.; POYARKOV, V.E.

Evaluation of the producible ore reserves of C₂ class minerals
based on prospecting data from Kazakhstan. Izv. AN Kazakh. SSR.
Ser.geol. 22 no.5:88-92 S-O '65.

(MIRA 18:12)

1. Kazakhskiy institut mineral'nogo syr'ya, g. Alma-Ata, i
Institut geologicheskikh nauk imeni K.I. Satpayeva, g. Alma-
Ata.

AZHIVIN, G.

Everybody should share progressive practices. Prof.-tekh. sb.
21 no.12:14-15 D '64. (MIRA 8:2)

1. Direktor Respublikanskogo ucheno-metodicheskogo kabineta,
Moskva.

AZHIKIN, G.

Practice of Lipetsk Province teachers. Prof.-tekhn.obr. 19
no.11:11-12 N '62. (MIRA 16:2)

1. Direktor professional'no-tehnicheskogo uchilishcha No.23,
Moskva.

(Teaching)

AZHIMUTDINOV, T.

9.6.61

L 14:276-63

EWI(d)/FCC(w)/EDS AFFTC IJP(G)

ACCESSION NR: AP3000216

8/0166/63/000/002/0010/0015

AUTHOR: Azhy*azhdinov, T.

TITLE: Variational problem connected with finding eigenvalues and fundamental functions of a two dimensional Lame equation 16

SOURCE: AN UzSSR. Izv. Seriya fiziko-matem. nauk, no. 2, 1963, 10-15

TOPIC TAGS: Lame equation, elasticity, eigenvalue, equivalence to variational problem, variational problem equivalence

ABSTRACT: Consider the two dimensional Lame equation (1) and (2).

$$\Delta \bar{w} + \lambda \text{grad div } \bar{w} = 0 \quad (1)$$

with the condition

$$\bar{w}|_L = 0, \bar{w} = \bar{u} + \bar{v}. \quad (2)$$

The problem of eigenvalues of problems (1) and (2) can be reduced to a variational problem. In all the work to which the author refers, the variational problems are obtained on the basis of the principle of minimum potential energy of elastic deformation. He makes a connection between the well-known Dirichlet principle and

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L 14276-63

ACCESSION NR: AP3000216

variational problems leading to equations in the theory of elasticity. He shows that find of eigenvalues and fundamental functions of (1) and (2) is connected with the variational problem on the minimum Dirichlet integral.

$$\iint_D \left[\left(\frac{\partial u}{\partial x} \right)^2 + \left(\frac{\partial u}{\partial y} \right)^2 + \left(\frac{\partial v}{\partial x} \right)^2 + \left(\frac{\partial v}{\partial y} \right)^2 \right] dx dy \quad (3)$$

with the condition

$$\iint_D \left(\frac{\partial u}{\partial x} + \frac{\partial v}{\partial y} \right)^2 dx dy = 1. \quad (4)$$

He proves the following theorem: The eigenvalues of problems (1) and (2) are negative and real. He remarks that it is obvious that all these results also hold for three dimensional space. Orig. art. has: 14 formulas.

ASSOCIATION: Tashkentkiy gosuniversitet im. V. I. Lenina (Tashkent State University)

SUBMITTED: 30Oct62

DATE ACQ: 12Jun63

ENCL: 00

SUB CODE: MB

NO REF SOV: 003

OTHER: 003

Card 2/2

AZINKHODZHAYEV, Kh.E. [Azimkhodzhaiev, Kh.E.]

Generation of current pulses by polycrystalline CdS films.

Ukr. fiz. zhur. 9 no.6:688-689 Je '64.

(MIRA 17:11)

1. Institut poluprovodnikov AN UkrSSR, Kiev.

AZHINOV, S.A.

Characteristics of bacillary dysentery according to data from a
hospital for infectious diseases. Zhur.mikrobiol. epid.i immun.
no.3:65-67 Mr '55. (MLRA 8:7)

1. Iz Novocherkasskoy infektsionnoy bol'nitsy Rostovskoy oblasti
(glavnyy vrach A.G.Kozorezov).
(DYSENTERY, BACILLARY, bacteriology,
hosp. statist.)

AZHINOV, S.A.

Cultivation of Trichomonas fetus. Med. parazit. i parazit. bol. 26 no.4:
480-481 J1-Ag '57. (MIRA 10:11)

1. Iz Rostovskoy oblastnoy nauchno-issledovatel'skoy veterinarnoy
opytnoy stantsii.
(TRICHOMONAS. culture,
fetus)

S/137/63/000/002/017/034
A006/A101

AUTHORS: Yevstifeyev, M. M., Kovalenko, P. N., Ashipa, I.T.

TITLE: Kinetics of nickel cementation with zinc

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1963, 39, abstract 20209
(In collection: "Tekhnol. prokrytiy metallov i metody kontrolya proiz-va". Rostov-na-Donu, Rostovsk. un-t, 1962, 110 - 117)

TEXT: Ni cementation is conducted from solutions of various Ni salts at $1 \cdot 10^{-3}$ g-ion/l concentration with Zn-powder. Cementation kinetics was studied at 25, 40, 60, 80 and 100°C . The authors investigated the dependence of the completeness of Ni cementation upon pH of the solution at different compositions of the medium. An amount of 99.46% of cemented Ni was obtained in a medium of $\text{NiSO}_4 + 5 \text{ ml } 2\text{n. H}_2\text{SO}_4$ at pH 1.12, Ni concentration as high as $1 \cdot 10^{-3}$ g-ion/l, 15 min cementation time and 100°C temperature. Ni is practically not cemented from solutions of its nitrates. Higher acidity increases slightly the percentage of cemented Ni. An increase in temperature promotes full cementation. The quantitative reduction of Ni from the solution is achieved at 100°C . The cemen-

Card 1/2

AZHIPA, Ya. I.

"Changes in the Higher Nervous Activity of Dogs Undergoing Peptone Shock."
Cand Med Sci, Rostov-na-Donu Medical Inst, Rostov-na-Donu, 1954. (RZh Biol, No 1,
Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher
Educational Institutions (12)

SO: Sum. No. 556, 24 Jun 55

TSYNKALOVSKIY, N.B.; AZHIPA, Ya.I.

Course of camphor epilepsy in hypothermia. Report no.1: Characteristics of inhibition of the central nervous system in hypothermia. Biul. eksp.biol. i med. 42 no.8:35-38 Ag '56. (MLRA 9:11)

1. Iz kafedry patofiziologii (zav. - prof. A.N.Gordiyenko) Rostovskogo medinstituta (dir. - prof. G.S.Ivakhnenko). Predstavlena akademikom A.D.Speranskim.

(EPILEPSY, experimental,
eff. of hypothermia in animals (Rus))
(HYPOTHERMIA, experimental,
eff. on epilepsy in animals (Rus))

GORDIYENKO, A.N.; KISELEVA, V.I.; SAAKOV, B.A.; TSYNKALOVSKIY, R.B.;
AZHIPA, Ya.I.; LET'YEN, A.V.; YEGOROV, A.I.; BONDAREV, I.M.;
ZHIGALIBA, L.I.

Reflex production of antibodies caused by antigen injection into an
isolated spleen [with summary in English]. Biul.eksp.biol. i med.
43 no.4:80-82 Ap '57. (MIRA 10:10)

1. Iz kafedry patofiziologii (zav. - prof. A.N.Gordiyenko) Rostov-
skogo meditsinskogo instituta. Predstavlena akademikom A.D.Speran-
skim.

(ANTIBODIES

form by reflex in system caused by antigen inject. into
isolated spleen in dogs)

(SPLEEN, physiol.

antibody form by reflex in system caused by antigen
inject. into isolated spleen in dogs)

Review of M.G.
AZHIPA, Ya.I.; YEGGROV, A.I.; TSINGALOVSKIY, N.B.; SAAKOV, B.A.

~~Review of M.G.~~
Review of M.G.Durmish'ian's monograph on the "Mechanisms of the
effect of afferent stimulations." Fiziol.zhur. 43 no.5:483-484
My '57. (MIRA 10:12)
(REFLEXES) (DURMISH'IAN, M.G.)

GORDIYENKO, A.N., KISELEVA, V.I., SAAKOV, B.A., AZHIPA, Ya.I., TSYNKALOVSKIY,
R.B., LET'YEN, A.V., YEGOROV, A.I., BOMDAROV, I.M., ZHIGALINA, L.I.

Further studies on the bioelectric potentials of nerves following
intracutaneous injection of antigens [with summary in English].
Biul.eksp.biol. i med. 45 no.4:96-99 Apr '58 (MIRA 11:5)

1. Iz kafedry patofiziologii (zav. - prof. A.N. Gordiyenko)
Rostovskogo meditsinskogo instituta (dir. - prof. Ye.M. Gubarev).
Predstavlena akademikom A.D. Speranskim.

(NERVE ENDINGS, physiology)

bioelectric potentials after intracutaneous inject.
of E.coli antigen (Rus))

(ESCHERICHIA COLI,

antigen intracutaneous inject. causing change in
bioelectric potentials of receptors (Rus))

GORDIYENKO, A.N., AZHIPA, Ya.I., SAAKOV, B.A., TSYNKALOVSKIY, R.B.

Determination of a dose of antigen capable of inducing antibody production following introduction into the carotid sinus. [with summary in English]. Biul. eksp. biol. i med. 46 no.7:49-52 Je'58 (MIRA 11:7)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. A.N. Gordiyenko) Rostovskogo meditsinskogo instituta. Predstavlena deystvitel'nyy chlenom AMN SSSR, A.D. Speranskim.

(ANTIGEN ANTIBODY REACTION,

dose of antigen capable of induction of antibody prod. in intracarotid sinus admin. (Rus))

(CAROTID SINUS,

dose of antigen capable of induction of antibody prod. in intracarotid admin (Rus))

AZHIPA, Ya.I.; OSTRYY, O.Ya. (Moskva)

Effect of remote nervous trauma on the functional state of the internal organs; according to vital staining indicators. Pat. fiziol. i eksp. terap. 4 no. 5:39-43 S-O '60. (MIRA 13:12)

1. In laboratorii akademika A.D. Speranskogo pri otdeleniy biologicheskikh nauk Akademii nauk SSSR.
(SCIATIC NERVE)

GORDIYENKO, A.N.; KISELEVA, V.I.; TSYNKALOVSKIY, R.B.; SAAKOV, B.A.;
AZHIPA, Ya.I.; LET'YEN, A.V.; YEGOROV, A.I.; OCHELENKO, L.N.;
BONDAREN, I.M.; ZHIGALINA, L.I.

Electrophysiological analysis of the action of antigens on the
angioceptors. Biul.eksp. biol. i med. 49 no.2:90-94 F '60.
(MIRA 14:5)

1. Iz kafedry patofiziologii (zav. - prof. A.N.Gordiyenko)
Rostovskogo meditsinskogo instituta. Predstavlena akademikom
A.D.Speranskim.

(ANTIGENS AND ANTIBODIES) (CAROTID SINUS)
(ELECTROPHYSIOLOGY)

GORDIYENKO, A.N.; KISELEVA, V.I.; TSYNKALOVSKIY, R.B.; SAAKOV, B.A.;
AZHIPA, Ya.I.; LET'YEN, A.V.; YEGOROV, A.I.

Determination of the threshold of stimulation of the skin receptors
by dysentery and typhoid antigens. Biul. eksp. biol. i med. 49
no.3:76-80 Mr '60. (MIRA 14:5)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. A.N.Gordiyenko)
Rostovskogo-na-Donu meditsinskogo instituta. Predstavlena daystvitel'ny
chlonom AMN SSSR A.D.Speranskim.
(DYSENTERY) (TYPHOID FEVER) (SKIN—INNERVATION)

OSTRYI, O.Ya.; AZHIPA, Ya.I.

Characteristics of the condition of tissue of the extremities
after sciatic nerve trauma; according to indices of vital
staining. Biul. eksp. biol. i med. 49 no. 4:44-49 Sp '60.
(MIRA 13:10)

1. Iz gruppy akademika A.D. Speranskogo pri otdelenii biologicheskikh
nauk AN SSSR, Moskva.
(SCIATIC NERVE---WOUNDS AND INJURIES) (LEG)

AZHIPA, Ya.I.; OSTRYY, O.Ya.

Nature of the progress of intraneural nystrophic processes;
according to vital stain indices. Biul. eksp. biol. i med. 50
no. 11:46-51 N '60 (MIRA 13:12)

1. Iz laboratorii nervnoy trofiki (zav. - doktor meditsinskikh
nauk O.Ya. Ostryy) Instituta normal'noy i patologicheskoy
fiziologii (direktor - akademik V.N. Chernigovskiy) AMN SSSR,
Moskva.

(NERVOUS SYSTEM—DISEASES)

AZHIPA, Ya.I. (Moskva)

Method for vital staining of tissues in the intact organism. Pat.
fiziol. i eksp. terap. 5 no.3:77-83 My-Je '61. (MIRA 14:6)

1. Iz laboratorii (rukovoditel' akademik A.D.Speranskiy) pri
otdelenii biologicheskikh nauk AN SSSR.
(STAINS AND STAINING (MICROSCOPY))

7

OSTRIY, O.YA., SOBIYEVA, Z.I., SKVIRSKAYA, E.A., MAGAYEVA, S.V.,
BABAYAN, S.A., STRUKOVA, L.O., VAKAR, M.D., AZHIPA, YA.I.

"The trophic function of the nervous system and the nervous
dystrophic process."

Report submitted, but not presented at the 22nd International
Congress of Physiological Sciences.
Leiden, the Netherlands 10-17 Sep 1962

FRANK, O.M., AZHIBA, YA.I., KAYUSHIN, L.P.

"Free radicals in a skeletal muscle."

Report submitted, but not presented at the 22nd International
Congress of Physiological Sciences.
Leiden, the Netherlands 10-17 Sep 1962

DURMISH'YAN, M.G., prof., red.[deceased]; LEBEDINSKIY, A.V., prof.,
red.; AZHIPA, Ya.I., red.; BEL'CHIKOVA, Iu.S., tekhn. red.

[Body reactions to the action of small doses of ionizing
radiations] Reaktsii organizma na deistvie malykh doz ioniziruiushchei radiatsii. Moskva, Medgiz, 1962. 302 p.
(MIRA 15:11)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR
(for Lebedinskiy).
(RADIATION—PHYSIOLOGICAL EFFECT)

AZHIPA, Ya.I.; KAYUSHIN, L.P.; L'VOV, K.M.

Changes in the amount of free radicals in the skeletal muscle during atrophy. Biofizika 7 no.5:610-614 '62.

(MIRA 17:8)

1. Institut vysshey nervnoy deyatel'nost' i neyrofiziologii AN SSSR, Moskva i Institut biologicheskoy fiziki AN SSSR, Moskva.

2. H. C. YOUNG, JR.; PHYLLOTHRA, G.A.

Effect of small doses of internal irradiation on bone growth: water, mineral and nitrogen retention in rats. *Exp. cell Res.* Radiobiologia 4 no. 5: 68-77, 1964. (W.B. 1864)

1. Institut vysshey nervnoy deyatel'nosti i psichofiziologii
11, B. Moskva.

AZHIPA, Ya.I.

Paramagnetic properties of the adrenal glands and their changes following extreme actions on the organism. Biofizika 10 no.3: 500-506 '65. (MIRA 18:11)

1. Institut vysshey nervnoy deyatel'nosti i neyrofiziologii AN SSSR, Moskva i Institut biologicheskoy fiziki AN SSSR, Moskva. Submitted Dec. 28, 1964.

AZHIPA, Ya.I.; FILYASHINA, G.A.

Effect of low doses of inner irradiation on some aspects of water, mineral, and nitrogen metabolism in animals. Report No.2. Content in the blood and excretion with urine of electrolytes and nitrogen metabolism products following penetration into the organism of Na^{24} in low doses. Radiobiologiya 5 no.5:667-674 '65. (MIRA 18:11)

1. Institut vysshey nervnoy deyatel'nosti i neyrofiziologii AN SSSR, Moskva.

L 43771-66 EWT(m)/EWP(i)/EWP(t)/ETI IIP(c) ID/RM
ACC NR: AP6015643 (A) SOURCE CODE: UR/0413/66/000/009/0054/0054

INVENTOR: Gyul' misaryan, T. G. ; Gilyazetdinov, L. P. ; Azhishchev, A. F. ;
Zavidov, V. I. 34 B

ORG: none 27

TITLE: Method of obtaining furnace carbon black. Class 22, No. 181215
[announced by Scientific Research Institute of the Tire Industry (Nauchno-issledovatel' skiy institut shinnoy promyshlennosti)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 54

TOPIC TAGS: hydrocarbon, carbon black, furnace ~~carbon black~~

ABSTRACT: An Author Certificate has been issued for a method of obtaining a furnace carbon black by decomposing liquid hydrocarbon raw material at 1100—1600C using haloid-containing components. To improve the properties of carbon black, the haloid-containing components are added to the raw materials prior to decomposition. Oil distillates are suggested as the hydrocarbon raw material for decomposition. [Translation] [NT]

SUB CODE: 11/ SUBM DATE: 07Dec63/
Card 1/1 AM 07/

UDC: 678.046.2

AZHISTANTOVA, Z.N.; TRAKHTENBERG, K.B., vrach

Results of apilin treatment in trichomycosis. Vent. derm. 1
ven. 37 no.6:44-45 Je '63. (MIRA 17:6)

1. Zaveduyushchiy mikologicheskim otdeleniyem kozhno-venerologicheskogo
dispansera Daugavpilsa (for Azhistantova). 2. Kožno-venerologicheskii
dispanser Daugavpilsa (for Trakhtenberg).

11.11.1957, Yu. A.
TATEVOSOV, S.R., professor; AZHITSKIY, Yu.A., nauchnyy sotrudnik

Twenty-third conference of physicians from resorts on the southern
shore of the Crimea (Yalta). op.kur.fizioter. i lech.fiz.kul't.
22 no.4:91-93 J1-Ag '57. (MIRA 10:11)
(CRIMEA--HEALTH RESORTS, WATERING PLACES, ETC.)

KALMYKOVA, Z.I. (Moskva); AZHIIY, B. (Saykhinskaya srednyaya shkola,
Kazakhskaya SSR); ANTOPOL'SKIY, V.M. (Saratov)

Problem of the overworking of students. Fiz.v shkole 20 no.4:
58-60 JI-Ag '60. (MIRA 13:8)
(Education--Curricula)

~~AZHKEYEV~~ kandidat sel'skokhozyaystvennykh nauk.

Companion crops. Nauka i pered.op.v sel'khoz. 7 no.6:33-35 Je '57.
(MLRA 10:7)

1. Institut zemledeliya imeni V.R. Vil'yamsa Kazakhskiy filial
Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. Lenina.
(Companion crops)

AZHMEDZHANOV, M.A.; MUSIN, R.A.; FEDOROVA, I.B.; YARMUKHAMEDOV, A.R.

Carbonate formations of the Middle Paleozoic in the Almalyk region. Uzb.geol.zhur. 6 no.3:5-13 '62. (MIRA 15:6)

1. Institut geologii AN UzSSR.
(Almalyk region--Rocks, Carbonate)

AID P - 3633

Subject : USSR/Mining

Card 1/1 Pub. 78 - 17/20

Authors : Azhnov, V. G. and A. I. Kaverin

Title : ~~Some results of the formation hydraulic breakthrough in~~
Krasnodar oil fields

Periodical : Neft. khoz., v. 33, #10, 89-90, 0 1955

Abstract : The method of hydraulic breakthrough has been applied for secondary recovery of oil in some depleted wells located in the Krasnodar oil fields. The fluids used in those flooding operations were: heavy viscous oil, 10% hydrochloric acid solution, light oil and underground reservoir water. The results have not been satisfactory in all cases and therefore only wells where reservoir pressure and oil saturation remain adequate are considered for further recovery.

Institution : None

Submitted : No date

Hydrofracturing of Petroleum-Bearing Strata (Cont.)¹⁵⁻⁵⁷⁻⁵⁻⁷²²⁷

as a direct result of hydrofracturing.
Card 2/2

M. G. M.

AZHOGIN, F.F.

CAND TECH SCI

Dissertation: "Chromate Passivation of Zinc."

16 November 49

Scientific Council of All-union Sci Res Inst of Aviation Materials.

80 Vecheryaya. Moskva
Sum 71

Handwritten: Fedor Fedorovich
AZHOGIN, Fedor Fedorovich, kand.tekhn.nauk; SHREYDER, A.V., kand.tekhn.
nauk, red.; UDAL'TSOV, A.N., glavnyy red.

[Local oxidation of magnesium alloys] Mestnoe oksidirovanie
magnisievyykh splavov. Moskva, In-t tekhniko-ekon.inform., 1956. 13 p.
(Informatsiya o nauchno-issledovatel'skikh rabotakh. Tema 23,
no.I-56-11) (MIRA 11:2)
(Magnesium alloys) (Oxidation)

PHASE I BOOK EXPLOITATION

935

Korroziya i zashchita metallov (Corrosion and Protection of Metals) Moscow, Oborongiz, 1957. 366 p. 3,000 copies printed.

Ed. (title page): Ambartsumyan, R. S., Doctor of Technical Sciences, Professor;

Ed. (inside book): Lagovskaya, M. S.; Tech. Ed.: Rozhin, V. P.; Managing

Ed. : Latynin, Ye. V.

PURPOSE: This book is intended for engineering, technical, and scientific personnel at industrial plants, research institutes, and design offices working in the field of corrosion-protection of stainless steel, high-strength structural steel, and light alloys.

COVERAGE: The book contains a collection of articles which deal with the corrosion and passivity of metals in various oxidizing media, corrosion of high-strength steels under tension, corrosive cracking, intergranular corrosion and pitting of aluminum alloys, and with certain questions of the anodic oxidation of these alloys. Articles on the corrosive cracking of magnesium alloys and means of protection against it are also included.

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Corrosion and Protection of Metals

935

Pavlov, S. Ye. (Deceased). Some Observations of the Corrosive Cracking of Aluminum Alloys	184
Parlov, S. Ye. (Deceased); Ambartsunyan, S. M. Intergranular Corrosion of Aluminum Alloys Containing Copper	199
Parlov, S. Ye. (Deceased); Maslova, A. F. Intergranular Corrosion and Corrosion Under Tension of Type-D16-T Alloy Tubes	218
Parlov, S. Ye. (Deceased); Soboleva, V. A. Investigation of the Causes of Pitting of Aluminum in Tap Water	236
Timonova, M. A. The Nature of Corrosive Cracking of Magnesium Alloys and Methods of Combatting It	260
Komissarova, V. S. Selfdissolution and Anodic Behavior of Magnesium	289
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SOV/137-58-10-21352

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 129 (USSR)

AUTHOR: Azhogin, F. F.

TITLE: Hydrogenizing of Steel in the Process of Electroplating
(Navodorozhivaniye stali pri nanesenii metallicheskih
pokrytiy gal'vanicheskimi metodami)

PERIODICAL: V sb.: Korroziya i zashchita metallov. Moscow, Oborongiz, 1957, pp 131-144

ABSTRACT: During the pickling of steel in acid, hydrogenizing takes place with a relationship to the pickling time corresponding to the equation $x = \sqrt{2 \rho t}$, where x is the depth of penetration of H, and t is the pickling time. The hydrogenizing decreases if tetrabutylammonium sulfate, "ChM" additives, or arsenous acid anhydride is introduced into the H_2SO_4 solution. The introduction of "dekristin" [decrystin? Transl. Ed. Note] or $Al_2(SO_4)_3$ into the galvanizing bath intensifies the hydrogenizing process. During galvanizing and cadmium plating in the cyanide electrolyte the hydrogenizing process follows a parabolic law. In this case the cathode cd has no appreciable effect upon the hydrogenizing process. The nature of the

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SOV/137-58-10-21352

Hydrogenizing of Steel in the Process of Electroplating

metallic coating exerts a strong influence upon the process of dehydrogenizing of steel. The processes of dehydrogenizing are examined.

1. Steel--Processing
2. Electroplating
3. Steel--Pickling
4. Steel--Hydrogenation

L. A.

Card 2/2

INDEX 2 BOOK INDUSTRY

555/2007

OBACHBASTY

(Laterecrystalline and Stress Corrosion of Metals) Moscow, Mashiz, 1960, 358 p., 3,000 copies printed.

Kd.: I.A. Lents, *Candidate of Technical Sciences*; Kd. of Publishing Engrs.: I.I. Lavchenko, *Engineer*; Tech. Kd.: V.D. Elvid, *Managing Eng. for Literature on Microlithing and Instrument Making*; (Physics): V.V. Kabanitsky, *Engineer*; Mikrolit. Kd.: I.A. Lents, *Candidate of Technical Sciences*; (Chemical): V.G. Shchuray, *Candidate of Technical Sciences*; V.M. Shchuray, *Candidate of Technical Sciences*; and A.V. Tsvetkovsky, *Candidate of Technical Sciences*.

NOTES: This collection of articles is intended for technical personnel concerned with problems of corrosion of metals.

Keywords: The collection correlates distribution of interfacial corrosion of stainless steels and stress corrosion of carbon steels, low-alloy and stainless steels, and light-weight and nonferrous alloys. The tendency of stress corrosion composition and species is correlated with corrosion conditions and the nature of degradation and corrosion cracking is analyzed. No personal views are mentioned. Most of the articles are accompanied by bibliography references, the majority of which are foreign.

Particular, Ye., Candidates of Technical Sciences, and E.A. Kuznetsov, Engineer. Rapid Method of Determining the Tendency of Bichloride Stains toward Inter-crystalline Corrosion

III. FINNS COMPOSITION OF STUDENTS STAFF

Shashimoy, A.V., Doctor of Chemical Sciences, Professor, and T.M. Kildayeva, Senior Researcher Worker, Candidates of Technical Sciences. The Role of Electrochemical Factors in the Process of Corrosion Cracking of Austenitic Steels

Lazare, D., Talk, Candidate of Technical Sciences, and T. M. Mikheylova,
Junior Scientific Worker. Effect of Various Environments on the Stress
Corrosion of Austenitic Steels at Supercritical Parameters

Elmetsky, P.M. Conditions of Technical Sciences (Decreased). Studies
Creation of Metals in Drying-Removal Equipment
(Sciences)
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0.1. Introduction. 0.2. Kinetics, Candidates of Technical Belances, and
0.3. Determination. 0.4. Effect of Hydrocarbon Mads Levels to Correlation
0.5. Dependence Upon the Uniformity of Structure and Mechanical Properties 27

IV. PROCESS CORROSION OF CARBON STEELS AND LOW-ALLOY STEELS

~~Also the best candidate of Technical Sciences. Corrosion Cracking of High-Strength Steels~~

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Kristal', M.M. Corrosion Cracking of Welding Equipment Made of Carbon
Steel in Sodium Nitrate Solutions

257

A.O. Vaynsburg, N.A. Averina and V.I. Kazarian, Engineers, participated as this study prepared at the Moscow City Institute steel in. I.V. Stalina (Moscow State Institute Irony. Stalina)

Padom, O.G., Engineer, S.I. Wolfson, D. I. Chemicals, Candidates of Technical Sciences, and A.G. Kalashov, Engineer, Candidate of Safety Valve Springs in Contact With Unstabilised Gasolines and Liquefied Gases

Card 6/9

152

269

59723

SOV/81-59-9-31729

18.8300

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 9, p 314 (USSR)

AUTHORS: Azhogin, F.F., Smirnova, Yu. A., Sychava, V.I.

TITLE: Selection of Protective Coatings for Products Operating Under Tropical Conditions

PERIODICAL: Sb. Kom-t po korrozii i zashchite metallov Vses. sov. nauchno-tekhn. o-v, 1958, Nr 3, pp 47 - 54

ABSTRACT: For establishing the suitability of metals and protective coatings for tropical conditions the authors propose the following test conditions in a special chamber: 1) 8 hours at 50 + 2°C at 100% relative humidity; 2) 12 hours at 18 - 25°C at 100% relative humidity; 3) 2 hours - ventilation of the chamber and drying of the samples; 4) 2 hours inspection of the samples. Samples of 100 x 50 mm of low-alloyed steel (ST) with and without protective coatings, of stainless ST, Al- and Cu-alloys were tested. The thickness of all coatings was determined by a VIAM MT-2 thickness gage. The test results have shown that low-alloyed ST is completely not-resistant. Polished Cr-Ni-ST has shown a high corrosion resistance.

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69719

SOV/81-59-9-31729

Selection of Protective Coatings for Products Operating Under Tropical Conditions

Cadmium-plating, of metal coatings investigated, has shown better results than zinc-plating. Chrome-plating shows good results only in the case of preliminary polishing of the samples. The thickness of the layer of a chrome-plated coating should be 60μ . Nickel-plating and tinning have shown unsatisfactory results. Among the multi-layer Cu-Ni and Cu-Ni-Cr coatings tested the most stable were three-layer coatings, and these only after polishing of the copper sublayer. The samples of ST 200SA were parkerized. A part of the samples was tested after parkerizing with following washings in a potassium bichromate solution and in warm water, later on they were oiled with a 1:4 mixture of aircraft oil with B70 aircraft gasoline. The oiled samples corroded after 67 days, the unoled samples after 1 day. Samples of LS59-1 Cu-alloys without protective coatings darkened after 4 days. After passivation¹ the same samples darkened after 24 days. Nickel-plating, tinning and silver-plating of this alloy yield positive results. The Al-alloys D16, V95, AMts, AMt, AL9 sharply increase the corrosion resistance after anodizing.

R. Novakovskaya

Card 2/2

SOV/137-58-9-19505

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 195 (USSR)

AUTHOR: Azhogin, F.F.

TITLE: Corrosion of High-strength Steel Under Stress (Korroziya pod napryazheniyem vysokoprochnykh staley)

PERIODICAL: V sb. Korroziya i zashchita metallov. Moscow, Oborongiz, 1957, pp 98-130

ABSTRACT: A critique of the known equations for the curves of corrosion cracking (CC) is adduced. An equation is proposed, in the development of which the assumption is made that there is a close proportionality between the rate of corrosion (RC) and the tensile stresses (S): $(\sigma - \sigma_{cr})\tau = K$ where σ is the applied tensile S; σ_{cr} is the critical S, below which cracking does not occur; $\sigma_{cr} = (v_0 - A_0 - K_3 \sigma_{int}) / (K_1 - K_2)$; σ_{int} is the internal tensile S; v_0 is the RC on the surface outside of the S concentrators at $\sigma = 0$; A_0 is RC on the bottom of a notch at $\sigma_{int} = 0$; K_1 and K_2 are the coefficients of proportionality of the RC on the bottom of a notch and on the remaining areas of the surface versus the magnitude of the S applied from without;

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SOV/137-58-19505

Corrosion of High-strength Steel Under Stress

K_3 is the coefficient of proportionality between RC on the bottom of the notch and the magnitude of internal S; τ is the time before the appearance of visible fissures; K is a coefficient, $K=S_0(K_1 - K_2)$; S_0 is the depth of a visible fissure. In experiments, conducted basically with specimens of high-strength 30KhGSNA grade steel, the effect of the composition of the solution, the state of the surface, the local plastic deformation, the medium and the temperature of tempering of the steel, and of the deoxidizing of the steel in the smelting process were examined. The strong influence of these factors on CC of 30KhGSNA grade steel is established. It is shown that the experimental data on CC of high-strength steel with various states of the surface in various corrosive media (data by author), of the MAZ alloy in an NaCl solution with addition of $K_2Cr_2O_7$ (Zaretskiy, Ye.M.), and of grade 25 steel in NH_4NO_3 solution (Shvarts, G.L.) conform to the proposed equation of the CC curve. Electrochemical investigation of high-strength EI-643 grade steel ($\sigma_b = 200 \text{ kg/mm}^2$), conducted in a 20% H_2SO_4 solution with the addition of NaCl demonstrated that the tensile S displace the electrode potential of steel toward the negative side. The moment of the formation of a visible fissure is accompanied by a sharp deterioration of the specimen. The study of the kinetics of the process of development of cracks during CC by the electric-resistance method made it possible to divide the process into three

Card 2/3

STSIBOROVSKAYA, N.B.; AZHOGIN, F.F., kand. tekhn. nauk, retsenzent;
YANOVSKIY, I.L., inzh., red.; ANIKINA, M.S., red. izd-va;
ROZHIN, V.P., tekhn. red.

[Oxide and zinc-phosphate metal coatings] Oksidnye i tsinko-
fosfatnye pokrytiya metallov. Moskva, Gos. nauchno-tekhn. izd-
vo Oborongiz, 1961. 169 p. (MIRA 14:12)
(Protective coatings)

S/790/62/000/000/001/005

AUTHORS: Azhogin, F.F., Pavlov, Yu.K.

TITLE: The effect of alloying on the corrosion cracking of high-strength steels.

SOURCE: Korroziya i zashchita metallov; sbornik statey. Ed. by V.P. Batrakov. Moscow, Oborongiz, 1962, 82-100.

TEXT: The paper deplores the nonexistence of published systematic studies on the effect of alloying elements on the corrosion cracking (CC) of structural steels in acid, neutral, and alkaline solutions and in humid air. A brief survey of existing literature is given. Investigation: A single smelted batch of steel, prepared in an electric induction furnace, was alloyed successively with various alloying elements (4-6 different quantitative additions per element, per full-page table). Steel strips were rolled and longitudinal specimens cut out. Heat treatment: Martensitic quench, 2-hr low or medium temper. Specimens were surface-ground to 100x8x2 mm and were stressed variously within the elastic range in a 20% H₂SO₄ bath with 30 g/l NaCl, a scale-removing solution in which high-strength steels (HSS) manifest an elevated CC tendency. The tensile stresses were achieved by simple-beam, concentrated-load, bending in a special jig (photo shown) with a screw adjustment (to within 0.05 mm) of the deflection. Measurements: (1) Mean time to crack formation

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The effect of alloying on the corrosion cracking ... S/790/62/000/000/001/005

at a given stress level; (2) the "critical stress" (max. stress at which CC does not take place); (3) a factor K (kg. min/mm^2), equal to the product of "excess" stress applied (above the "critical stress") and the time (min.) to inception of CC. Carbon (0.3-0.78%): An increase in C content increases the tendency of a HSS toward CC; this is attributed primarily to stresses created by the C dissolved in α -Fe. High tempering T reduces the internal stresses and, hence, the CC tendency. C-containing HSS become more CC-prone with increasing hardness. Graphs of crack-formation time vs. stress applied are shown for various C contents and tempering T . The "critical-stress" and K values are tabulated. The effects of the T and duration of temper on the critical stress are graphed, also the correlation of H_{RC} and the critical stress. Chromium (0-4.3%): The CC tendency of a HSS increases with increasing Cr content within the range of % Cr tested. High tempering T reduce the CC tendency, but less so with increasing Cr content (most sharply between 0.5 and 1.5%). The specimens were quenched either without or with temper at 200, 300, 350, and 400°C. The CC relationship with temper T and Cr content is illustrated graphically. Silicon (0.14-1.78%): An increase in Si content up to 1.28% does not increase the CC tendency; a further increase in Si content (up to 1.78%) prolongs the time to CC formation in steel tempered at 300°C. The Si-containing specimens were water-quenched and tempered at 200, 300, and 350°. The critical stress remained practically unchanged at all Si contents for a

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45219

S/790/62/000/000/002/005

18,8200

AUTHOR: Azhogia, F. F.

TITLE: On the effect of an ambient medium on the disintegration of steel.

SOURCE: Korroziya i zashchita metallov; sbornik statey. Ed. by V. P. Batrakov. Moscow. Oborongiz, 1962, 101-111.

TEXT: The paper reports a further investigation of the stress-corrosion relationship previously found by the author (precedent sbornik of same title, 1957) according to which the product of the excess tensile stress over the critical stress (i. e., the stress actually applied minus the highest stress at which corrosion cracking does not take place) times the crack-inception time (CIT) is a constant, K. The critical stress (CS) and the constant K are experimentally determinable characteristics of a given steel in a given ambient corrosive medium. The stress (y) - versus -CIT (x) curve is then a hyperbola, displaced vertically by the amount of the CS. 3 typical examples are shown, including one of brass in ammonia in which the CS is negative, a fact attributed to the existence of strong internal stresses in the brass. In considering the similar problem of H-embrittlement of steel, an attempt is made to establish a functional relationship between the H-induced CIT and the tensile stresses on the basis of an adsorptive-process

Card 1/2